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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, TRONG NHAN P

ART UNIT PAPER NUMBER

2152

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,755

Applicant(s)

CHANDA ET AL.

Examiner

Jack P Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 45-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to applicant's election to a restriction requirement filed 11/4/04. Applicant canceled claims 45-54 without traverse. Claims 1-44 are now being examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiu et al, 6,597,689 (Chiu hereafter).

As per claim 1, Chiu teaches a network system (fig. 1 shows a network system), comprising: a plurality of integrated access devices (IADs) assigned to a plurality of clients in a multi-client unit (MCU); at least one IAD being assigned to each of the plurality of clients in the multi-client unit to transmit and receive units of information, the IADs being configured to prioritize data transmission according to the type of information included in the units of information (col. 14, lines 4-10; col. 15, lines 12-13; col. 16, lines 27-30; PC's DSL modem is an IAD device that allows the computer to communicate with other network devices; multiple clients are connected together via a router or bridge 'or known as MCU' in the home or small office network (120, 122, fig. 1)

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that can communicate with the central office via the wide area network 'WAN'; client IAD device is enabled to process data according to data prioritization schemes according to the user's Quality of Service 'QoS' agreement with the service provider); an MCU gateway device assigned to the multi-client unit and coupled to the plurality of IADs to receive or transmit the units of information, the gateway device being configured to prioritize the units of information according to the type of information included in the units of information (col. 14, lines 4-10; col. 15, lines 12-13; gateway (or also known as router) is used as a MCU to connect plurality of clients together to send or route data between the small office to other networks; like the modem 'IAD' device above, the gateway device is also programmed/configured to be compatible with data prioritization schemes); and a regional switching device assigned to a geographic region including the MCU, the regional switching device being coupled to the gateway device to transmit or receive the units of information to and from the gateway device, wherein the unit of information is any block of data suitable for transmission from a first node to a second node in the network system (101, fig. 1; col. 16, lines 39-43; the Intelligent Multiservice Access System 'IMAS' device functions as a central gateway server that binds plurality of networks (120, 123, fig. 1) together to one regional control center supporting communications between devices over the networks; other IMAS devices may be deployed to other regional offices (110, 112, fig. 1) as shown in fig. 1).

As per claim 35, Chiu teaches a building area network system (121, fig. 1; residential area network is equivalent to building area network), comprising: a gateway device provided within a multi-tenant unit, each of the tenants in the multi-tenant units

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having a plurality of users, the gateway device dividing the available bandwidth among the tenants within the multi-client unit (col. 15, lines 12-13; col. 14, lines 4-13; gateway device is programmed to ensure Quality of Service 'QoS' agreements between the clients and service provider are being met; in essence, the device divides the total bandwidth in order to supply each client the necessary bandwidth as agreed by its QoS agreement with the service provider); a tenant policy management 'TPM' device coupled to the gateway device, the tenant policy management device being adapted to regulate inward-bound data and outward-bound data of each of the tenants (col. 14, lines 4-13; the TPM is a component gateway device; it regulates compliancy between the clients and the service provider according to the QoS agreements); and a plurality of access devices each assigned to one of the tenants, each of the access devices coupled to the gateway device and coupled to one or more customer premise equipment, each of the access devices being adapted to regulate a portion of the inward-bound data and outward-bound data for the tenant to which the integrated access device is assigned (col. 16, lines 27-30; PC's DSL modems are IAD devices that are connected to the gateway device to communicate with other devices over the WAN; the local IAD device works to ensure the data services are in compliant with the QoS agreement between itself and the service provider).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu.

As per claims 1, Chiu teaches a network system (fig. 1 shows a network system), comprising: a plurality of integrated access devices (IADs) assigned to a plurality of clients in a multi-client unit (MCU), at least one IAD being assigned to each of the plurality of clients in the multi-client unit to transmit and receive units of information (col. 15, lines 12-13; col. 16, lines 27-30; PC's DSL modem is an IAD device that allows the computer to communicate with other network devices; multiple clients are connected together via a router or bridge 'or known as MCU' in the home or small office network (120, 122, fig. 1) that can communicate with the central office via the wide area network 'WAN'); an MCU gateway device assigned to the multi-client unit and coupled to the plurality of IADs to receive or transmit the units of information, the gateway device being configured to prioritize the units of information according to the type of information included in the units of information (col. 15, lines 12-13; local gateway (or also known as router) is used as a MCU to connect plurality of local clients together to send or route data between the small office to other networks); network gateway device (101, fig. 1) configured to process data prioritization schemes according to the data types in order to ensure data is delivered to the subscriber in compliance with Quality of Service 'QoS' agreement between the client and service provider (col. 13, lines 51-57; col. 14, lines 4-10; col. 16, lines 39-43); and a regional switching device assigned to a geographic

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region including the MCU, the regional switching device being coupled to the gateway device to transmit or receive the units of information to and from the gateway device, wherein the unit of information is any block of data suitable for transmission from a first node to a second node in the network system (101, fig. 1; col. 16, lines 39-43; the Intelligent Multiservice Access System 'IMAS' device functions as a central gateway server that binds plurality of networks (120, 123, fig. 1) together to one regional control center supporting communications between devices over the networks; other IMAS devices may be deployed to other regional offices (110, 112, fig. 1) as shown in fig. 1). Even if Chiu does not explicitly disclose configuring the IAD to prioritize data transmission according to the type of data being delivered to the client device, it would have been obvious to one of ordinary skill in the art to modify the Chiu teachings to enable the IAD device to regulate its local data prioritization schemes to help ensures the client is getting the QoS it has subscribed to as stated above.

As per claim 23, Chiu teaches the IAD devices are assigned to plurality of clients, in a MCU to transmit and receive multimedia data; the IAD and gateways are enabled to regulate data prioritization schemes in order to comply with QoS agreements between the clients and the service provider; local gateway connects and routes data between plurality of client devices over the networks; regional gateway to connect multiple local networks together forming a regional geographic region to transmit and receive data between the local networks (see claim 1 USC 103 rejection; multimedia data includes data types such as voice, audio, text, etc as disclosed in col. 14, lines 9). Chiu further discloses QoS delivery of data includes many different levels or data rates depending

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on the agreement with the service provider; some of these QoS levels include Constant Bit Rate 'CBR', Real-time Variable Bit Rate 'rtVBR', Available Bit Rate 'ABR', etc.; these rates set both minimum and maximum data rates the clients can expect to receive according to the agreements (col. 5, lines 8-12, lines 15-19, lines 48-50, lines 54-55). Even if Chiu does not explicitly disclose assigning different maximum and minimum data rates to the IAD or gateway devices, it would have been obvious to one of ordinary skill in the art to modify the Chiu teachings to set any maximum or minimum data rates to the devices according to the QoS agreements between the clients and the service provider.

As per claims 32 and 35, Chiu teaches a building area network system (121, 122, fig. 1; col. 16, lines 2-4; residential or small office area network is equivalent to building area network; these networks comprise of plurality of clients), comprising: a gateway device provided within a multi-tenant unit, each of the tenants in the multi-tenant units having a plurality of users; the gateway regulates multimedia data transmission rates (minimum and maximum) and prioritization schemes of data types for each of the clients according to QoS agreements between the clients and the service provider; a plurality of integrated access devices 'IAD' each assigned to one of the tenants, each of the access devices coupled to the gateway device and coupled to one or more customer premise equipment (client device), each of the access devices being adapted to regulate a portion of the inward-bound data and outward-bound data for the tenant to which the integrated access device is assigned (see claim 23 USC 103 rejection); a tenant policy management 'TPM' device coupled to the gateway device, the tenant

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policy management device being adapted to regulate inward-bound data and outward-bound data of each of the tenants (col. 14, lines 4-13; the TPM is a component gateway device; it regulates compliancy between the clients and the service provider according to the QoS agreements). Even if Chiu does not explicitly disclose the gateway device dividing the available bandwidth among the tenants within the multiclient unit, it is apparent and would have been obvious to one of ordinary in the art to infer during the process of regulating the bandwidth to each of the client devices according to the QoS agreements, the gateway device divides the available bandwidth and assigns the appropriate bandwidth to each client device in order to comply with the QoS agreement between the client and the service provider.

As per claim 2, Chiu discloses the IADs (modems) are coupled to customer premise equipment (or client device) (col. 16, lines 27-30; modem is coupled to client computing device).

As per claims 3-5, Chiu discloses an IAD is coupled to a local area network 'LAN' system and within client's premise; one client includes a plurality of users (col. 16, lines 27-30; client device can be accessed by plurality of users)

As per claim 6, Chiu discloses the units of information include packets (col. 15, line 61).

As per claims 7, Chiu discloses the regional switching device is a multiplexer (col. 16, lines 39-43).

As per claims 8-9, Chiu discloses the gateway device is provided within the MCU; the MCU is a business complex (122, fig. 1, col. 16, lines 2-4).

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As per claim 10, Chiu discloses the gateway device includes: at least one wide area network (WAN) card to interface with the regional switching device and the plurality of IADs (clients) (col. 6, lines 18-20; line card is integrated within WAN card; WAN card connects plurality of clients); and at least one switch card to receive and transmit the units of information to and from the WAN card (col. 6, lines 20-23).

As per claim 11, Chiu discloses upgrading the WAN card without making a corresponding upgrade on the IADs (col. 6, lines 24-26; each WAN card is distinct from IAD device {IAD device is a modem device coupled to the client machine}); upgrading WAN card can be done separately from upgrading client modem device).

As per claims 12-14, Chiu discloses the gateway device includes a plurality of WAN and switch cards (col. 22, lines 40-43; gateway device comprises plurality of WAN and switch cards as shown in fig. 3); WAN cards can support plurality of technologies (col. 15, line 63; col. 22, lines 35-37; WAN card supports plurality of protocols such as ATM, TCP/IP, etc.); plurality of switch and WAN cards to provide redundancy in case one of the cards experience interruption or downtime (col. 6, lines 50-52).

As per claims 15-16, Chiu discloses data includes multimedia data (col. 14, lines 6-8); voice data includes such as voice-over-TCP/IP 'VOIP' or voice-over-ATM protocols (col. 14, lines 6-8; col. 16, line 27; col. 16, line 44; system supports multimedia data that can be streamed over IP as well as ATM protocols).

As per claims 17-18, 26-27, Chiu discloses client IAD device supports multimedia data streaming and the IAD device regulates minimum and maximum data transmission rates according to QoS agreement with service provider (col. 14, lines 6-8; see claim 23

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rejection).

As per claims 19-21 and 31, Chiu discloses data units can be classified according to their data types and the data types can be prioritized by different levels (col. 14, lines 4-13; see claim 23 rejection; data types are being serviced according to their QoS agreement).

As per claim 22, Chiu discloses the MCU includes clients that are not assigned the IADs (col. 14, line 45; dummy terminal may be connected directly to the MCU device without the use of IAD device).

As per claim 24, Chiu discloses the IAD and gateway devices regulate average (or guaranteed) data transmission rates to the clients (col. 5, lines 38-39; col. 14, lines 4-10; the average or guaranteed data rates vary according to the QoS agreement of each client; the IAD and gateway devices regulate these data rates according to the QoS agreements of the clients, respectively).

As per claims 25, 28, 33 and 34, Chiu discloses maximum and minimum data rates are assigned to each client according to the QoS agreement between the client and the service provider; these rates can be the same or different among different clients (see claim 23 rejection).

As per claims 29-30, Chiu discloses data includes multimedia data and data types such as voice and video are given priority over other data types during data transmission in the IAD and gateway devices (col. 5, lines 22-27; col. 35, lines 64-66; streaming video and audio data types (or CBR – constant bit rate) get priority over other data types during data transmission).

As per claim 36, Chiu discloses gateway device includes a traffic shaper to prioritize packets for data transmission purposes (col. 13, lines 51-57; traffic shaper is a component of the gateway device).

As per claims 37 and 43, Chiu discloses gateway device can process data in VDSL format (col. 2, line 51; col. 6, lines 38-40; col. 16, lines 17-18; VDSL is supported by gateway device); IAD device can regulate the data transmission between itself and gateway device according to its QoS agreement (see claim 23 rejection).

As per claims 38-40, Chiu discloses IAD device provides IP routing, security, and management services (col. 15, lines 60-61; col. 55, lines 39-45).

As per claim 41, Chiu discloses the customer premises equipment is a computer (col. 8, line 31).

As per claim 42, while Chiu does not explicitly disclose the clients include at least 10 clients, it would have been obvious to one of ordinary skill in the art to include 10 or more clients in order to justify the costs of implementing the system.

As per claim 43, while Chiu does not explicitly disclose the size of the gateway device, it would have been obvious to one of ordinary skill in the art to design the device according to any dimension as desired by the designer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Enns et al, 6,785,288; Varma, 6,275,497; Gerszberg et al, 6,714,534; Liebenow et al, 6,131,136; Bayless et al, 6,026,158; Lin et al, 6,603,770

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack P Nguyen whose telephone number is (571) 272-3945. The examiner can normally be reached on M-F 8:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jpn



Dung C. Dinh
Primary Examiner